AUTOCALL

*UL, ULC Approved**

TrueAlarm Analog Sensing

Sounder Base A4098-9794 for use with TrueAlarm Photoelectric and Heat Sensors

Features

Modular TrueAlarm sensor base with built-in electronic alarm sounder:

- Piezoelectric sounder provides high output (88 dBA) with low current requirements (20 mA)
- For use with interchangeable TrueAlarm photoelectric or heat sensors (ordered separately)
- Operation is for ceiling or wall mounting

Sounder operation details:

- Powered from 24 VDC or from a compatible Notification Appliance Circuit (NAC)
- Synchronized via communications or by the NAC, if NAC powered**
- Sounder can be manually activated from the control panel
- Sensor and sounder operation is listed to UL Standard 268
- Sounder operation is also listed to UL Standard 464 as an audible notification appliance

TrueAlarm analog sensing operation:

- Analog sensor information is digitally communicated to the control panel via IDNet two-wire communications
- Sensor information is processed by the control panel to determine sensor status

For use with the following Autocall products:

- 4007ES, 4010ES, 4100ES, and 4100U Series control panels

General features:

- Louvered smoke sensor design enhances smoke capture by directing flow to chamber; entrance areas are minimally visible when ceiling mounted
- Designed for EMI compatibility
- Magnetic test feature is provided
- Optional accessories include remote LED alarm indicator and output relays

Additional base reference:

- For standard bases, refer to data sheet AC4098-0019
- For isolator bases, refer to data sheet AC4098-0025
- For photo/heat sensors, refer to data sheet AC4098-0024 (single address) and AC4098-0033 (dual address)

** Total quantity of sounder bases available for coding on the same communications channel may vary with panel application and availability of NAC power. Refer to specific control panel requirements.

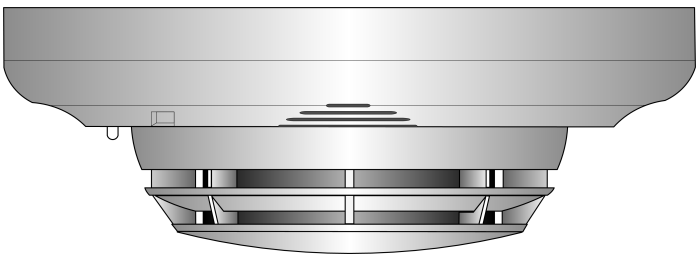

Fig 1: TrueAlarm Photoelectric Sensor Mounted in Sounder Base A4098-9794

TrueAlarm Analog Sensing Description

Sounder bases combine an audible notification appliance and a TrueAlarm analog sensor to provide:

Digital Communication of Analog Sensing. Sensors provide an analog measurement that is digitally communicated to the control panel where it is analyzed and an average value is determined and stored. An alarm or other abnormal condition is determined by comparing the sensor's present value against its average value.

Intelligent Data Evaluation. Monitoring each sensor's average value provides a software filtering averaging process that compensates for environmental factors (dust, dirt, etc.) and component aging, providing an accurate reference for evaluating new activity. The result is a significant reduction in the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down.

Control Panel Selection. Peak activity per sensor is stored to assist in evaluating specific locations. The alarm set point for each TrueAlarm sensor is determined at the control panel, selectable as more or less sensitive as the individual application requires.

Timed/Multi-Stage Selection. Alarm set points can be programmed for timed automatic sensitivity selection (such as more sensitive at night, less sensitive during day). Control panel programming can also provide multi-stage operation per sensor. For example, a 0.2% level may cause a warning to prompt investigation while a 2.5% level may initiate an alarm.

Sensor Alarm and Trouble LED Indication. Each sensor base's LED pulses to indicate communications with the panel. If the control panel determines that a sensor is in alarm, or that it is dirty or has some other type of trouble, the details are annunciated at the control panel and that sensor base's LED will be turned on steadily. During a system alarm, the control panel will control the LEDs such that an LED indicating a trouble will return to pulsing to help identify the alarmed sensors.

Additional Sounder Base Features

Base mounted address selection allows the address to remain with its programmed location when the sensor is removed for service or type change. Access is from the front under the removable sensor.

Automatic sensor type identification provides default sensitivity when substituting sensor types. Different sensor types can be easily interchanged to meet specific location requirements. This feature also allows intentional sensor substitution during building construction. When conditions are temporarily dusty, instead of covering the smoke sensors (causing them to be disabled), heat sensors may be installed without reprogramming the control panel.

Integral red LED indicates power-on by pulsing, or alarm or trouble when steady on. The exact status is annunciated at the fire alarm control panel.

Fire alarm control panel provides:

- Peak value logging allowing accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring satisfying NFPA 72 sensitivity testing requirements; automatic individual sensor calibration check verifies sensor integrity
- Automatic environmental compensation, multi-stage alarm operation, and display of sensitivity directly in percent per foot
- Ability to display and print detailed sensor information in plain English language

* Additional listings may be applicable; contact your local product supplier for the latest status.

Accessories

A4098-9822, LED Annunciation Relay activates when base LED is on steady, indicating a local alarm or trouble. Contacts are DPDT, rated 2 A @ 30 VDC; 1/2 A @ 120 VAC for transient suppressed loads (requires external 24 VDC coil power).

A2098-9808, Remote red led Alarm Indicator mounts on a single gang box to provide status indications where the sensor location may not be readily visible.

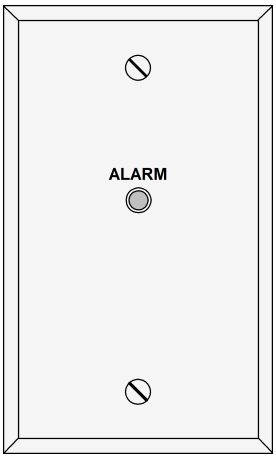

Fig 2: A2098-9808 Remote LED Alarm Indicator

TrueAlarm Analog Sensor Features

Sealed against rear air flow entry

Electronics are EMI/RFI shielded

Heat sensors:

- Selectable rate compensated, fixed temperature sensing with or without rate-of-rise operation
- Rated spacing distance between sensors:

Fixed Temp. Setting	UL & ULC Spacing	FM Spacing, Either Fixed Temperature Setting
135° F (57.2° C)	60 ft x 60 ft (18.3 m)	20 ft x 20 ft (6.1 m) for fixed temperature only; **RTI = Quick**
155° F (68° C)	40 ft x 40 ft (12.2 m)	50 ft x 50 ft (15.2 m) for fixed temperature with either rate-of-rise selection; **RTI = Ultra Fast**

Smoke Sensors:

- Photoelectric technology sensing
- 360° smoke entry for optimum response
- Built-in insect screens

A4098-9714 Photoelectric Sensor

TrueAlarm photoelectric sensors use a stable, pulsed infrared LED light source and a silicon photodiode receiver to provide consistent and accurate low power smoke sensing. Seven levels of sensitivity are available for each individual sensor, ranging from 0.2% to 3.7% per foot of smoke obscuration. Sensitivities of 0.2%, 0.5%, and 1% are for special applications in clean areas. Standard sensitivities are 1.5%, 2.0%, 2.5%, 3.0%, and 3.7%. Application type and sensitivity are selected and then monitored at the fire alarm control panel.*

The sensor head design provides 360° smoke entry for optimum smoke response. Due to its photoelectric operation, air velocity is not normally a factor, except for impact on area smoke flow.

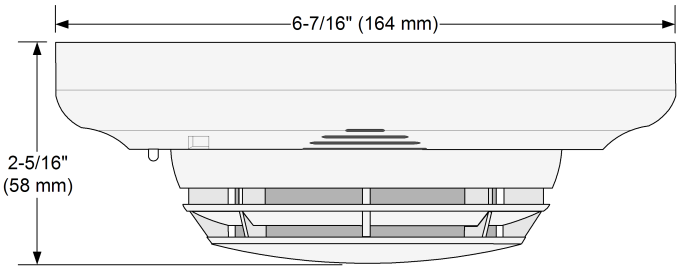

Fig 3: A4098-9714 Photoelectric Sensor with Sounder Base

A4098-9733 Heat Sensor

TrueAlarm heat sensors are self-restoring and provide rate compensated, fixed temperature sensing, selectable with or without rate-of-rise temperature sensing. Due to its small thermal mass, the sensor accurately and quickly measures the local temperature for analysis at the fire alarm control panel.

Rate-of-rise temperature detection is selectable at the control panel for either 15° F (8.3° C) or 20° F (11.1° C) per minute. Fixed temperature sensing is independent of rate-of-rise sensing and programmable to operate at 135° F (57.2° C) or 155° F (68° C). In a slow developing fire, the temperature may not increase rapidly enough to operate the rate-of-rise feature. However, an alarm will be initiated when the temperature reaches its rated fixed temperature setting.

TrueAlarm heat sensors can be programmed as a utility device to monitor for temperature extremes in the range from 32° F to 155° F (0° C to 68° C). This feature can provide freeze warnings or alert to HVAC system problems. *Refer to specific panels for availability*.

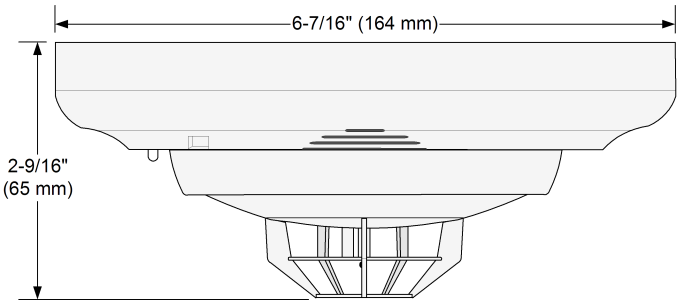

Fig 4: A4098-9733 Heat Sensor with A4098-9794 Sounder Base

WARNING: In most fires, hazardous levels of smoke and toxic gas can build up before a heat detection device would initiate an alarm. In cases where Life Safety is a factor, the use of smoke detection is highly recommended.

Application Reference

Sensor locations should be determined after careful consideration of the physical layout and contents of the area to be protected. Refer to NFPA 72, *the National Fire Alarm and Signaling Code*. On smooth ceilings, smoke sensor spacing of 30 ft (9.1 m) may be used as a guide. For detailed application information, refer to ***A4098 Detectors, Sensors, and Bases Application Manual***, Part Number 574-709AC.*

* For detailed application information including sensitivity selection, refer to Installation Instructions 574-709AC.

TrueAlarm Analog Sensing Product Selection Chart

Table 1: TrueAlarm Sounder Base*

SKU	Description	Compatibility	Mounting Requirements
A4098-9794	Sounder Base with connections for Remote LED Alarm Indicator **or** Unsupervised Relay	Sensors: A4098-9714 and A4098-9733	
		Options: A2098-9808 remote LED alarm indicator **or**A4098-9822 relay	

Table 2: TrueAlarm Sensors (ordered separately)

SKU	Description	Mounting Requirements
A4098-9714	Photoelectric Smoke Sensor	Refer to page 2, mounting reference
A4098-9733	Heat Sensor	

Table 3: Sounder Base Accessories (ordered separately if required)

SKU	Description		Mounting Requirements
4098-9832	Adapter Plate, **required** for surface mounted 4" electrical boxes		Refer to page 2, mounting reference
A2098-9808	Choose **one** if required	Remote red LED Alarm Indicator on single gang stainless steel plate	Single gang box, 1-1/2" minimum depth
A4098-9822		Relay, tracks base led status (unsupervised, to be mounted only in base electrical box)	Mounts in base electrical box (requires 1-1/2" extension on 4" square or octagonal box)
* Refer to data sheet AC4098-0019 for other compatible bases. Refer to Installation Instructions 574-707AC and Application Manual 574-709AC for additional information.			

Specifications

Table 4: General Operating Specifications

Specification		Rating
Communications and Sensor Supervisory Power		IDNet communications, auto-selected, 1 address per base
Communications and Sounder Power Connections		Screw terminals for in/out wiring, 18 to 14 AWG (0.82 mm2 to 2.08 mm2)
Remote LED Alarm Indicator	Current	1 mA typical supplied from communications, no impact to alarm current
	LED Connections	Color coded wire leads, 18 AWG (0.82 mm2)
UL Listed Temperature Range		32° F to 100° F (0° C to 38° C)
Operating Temperature Range	With A4098-9733	32° F to 122° F (0° C to 50° C)
	With A4098-9714	15° F to 122° F (-9° C to 50° C)
Storage Temperature Range		0° F to 140° F (-18° C to 60° C)
Humidity Range		10 to 95% RH
Smoke Sensor Ambient Ratings	A4098-9714, Photoelectric Sensor	Air velocity is 0-4000 ft/min (0-1220 m/min)
Housing Color		Frost White

Table 5: Sounder Operation

Specification	Rating
Sounder Voltage	18 to 32 VDC from steady external source or from NAC
Alarm Current (Sounder On)	20 mA @ 24 VDC, 24 mA maximum @ 32 VDC

Table 5: Sounder Operation

Specification		Rating
Sounder Output		88 dBA minimum @ 10 ft (3 m) per UL Standard 464, *Audible Signaling Appliances and UL Standard 268, Smoke Detectors for Fire Protective Signaling Systems*
Sounder Power Supervision (Selectable)	Supervised	Select for continuous 24 VDC power, loss of power is communicated to panel
	Unsupervised	Select when connected to NAC for sounder power, NAC provides supervision
NAC Powered Operation		When in alarm, will sound when NAC is in alarm, allowing synchronized pattern (Temporal or March Time, etc.) controlled by the NAC

Table 6: A4098-9822 Unsupervised Relay Option

Specification	Rating
Externally Supplied Relay Voltage	18-32 VDC, steady source recommended (wires to remote LED leads)
Alarm Current	13 mA from separate 24 VDC supply
Contact Ratings, DPDT contacts for resistive/suppressed loads	Power limited rating: 2 A @ 30 VDC
	Non-power limited rating: 1/2 A @ 120 VAC
Relay Operation	Tracks base LED status, relay is on with trouble or alarm at the base